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東京大学理学部 1 号館西棟 11 階 1109 号室 (天文学専攻会議室) にて

“Strong Gravitational Lensing as a Probe of Galaxy Evolution and
Cosmology”

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Strong gravitational lensing is a useful probe for studying the evolution of galaxies over cosmic time, as well as the cosmological parameters of the universe. I will review a series of lensing projects that I am involved in, including: 1) using ALMA to study the innermost mass distribution of a galaxy-scale lens and constraining the mass of its supermassive black hole; 2) using lensed quasars with measured time delays to constrain the Hubble constant; and 3) studying an extremely rare double source plane lens in the Hyper Suprime Cam survey, which can provide constraints on cosmology and galaxy structure beyond those offered by typical lens systems. These diverse projects demonstrate the application of using strong lensing at various scales as a tool to answer fundamental questions about extragalactic astronomy and cosmology.